



Purchase of the Water Company

Engineering

August 2018

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Background

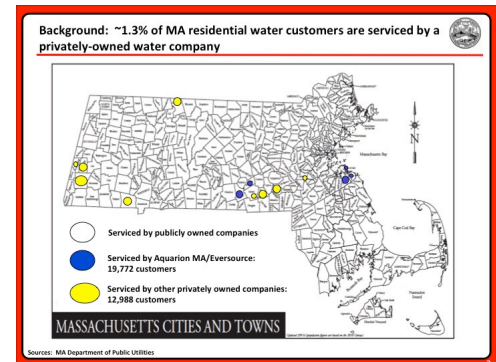
How many communities in Massachusetts are serviced by a privately owned water company today?

According to the DPU, privately-owned water companies service a portion of 14 communities in the Commonwealth (351 communities) which translates to 32,760 customers. This represents approximately 1.3% of MA residential water customers.

Aquarion/Eversource services 19,772 customers in 5 communities: the Towns of Millbury, Oxford, Hingham, Hull, and part of Cohasset. Aquarion's Service Area A consists of customers in Hingham, Hull, and north Cohasset.

9 other municipalities are serviced by a privately owned water company, representing 12,988 customers: the Town of Milford and portions of Dover, Northfield, Granville, Great Barrington, Stockbridge, West Stockbridge, Northbridge, and Sutton.

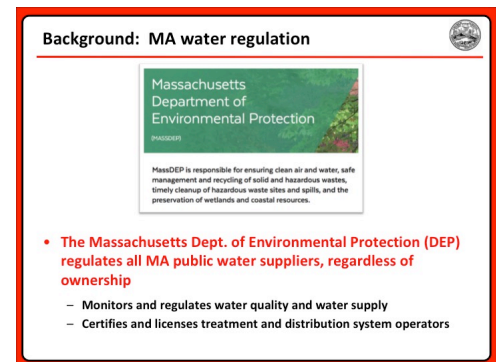
All other water customers in the Commonwealth are serviced by a public water company (including the MWRA).



Which water companies are regulated by the MA Department of Environmental Protection?

All Massachusetts public water suppliers are regulated by the Massachusetts Dept. of Environmental Protection (DEP), regardless of ownership. The Massachusetts DEP:

- Monitors and regulates water quality and water supply
- Certifies and licenses treatment and distribution system operators
 - Rates distribution systems based on size and complexity
 - Sets staffing requirements (based on rating) to *“ensure the proper management, operation, and maintenance of public water systems...”*
 - Defines certification requirements for operators
 - Certification occurs with Board of Certification of Operators of Drinking Water Supply Facilities



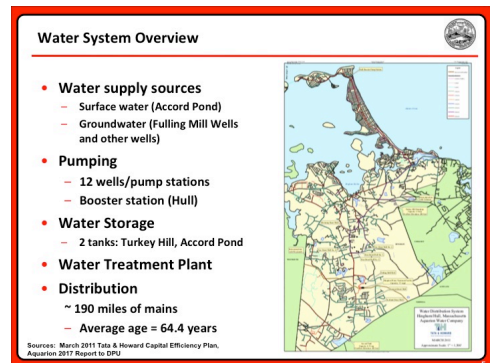
Today, as the owner of the Hingham water company, Aquarion must comply with all the regulations, staffing, certification, and reporting requirements of the DEP. If the Town were to purchase the water company, the Town would be required to comply with them as well.

What is the water source and water delivery system for Service Area A?

The primary water source for Service Area A is the Weir River watershed, which feeds Fulling Mill Pond and Accord Pond. The rights to these ponds were purchased in 1886 (Fulling Mill Pond) and 1912 (Accord Pond).

The water delivery system includes 12 wells/pump stations, a booster station in Hull, 2 storage tanks (located at Accord Pond and Turkey Hill), approximately 190 miles of water mains, and a water treatment plant.

The average age of the water mains is 64.4 years.



Operational Issues

To what extent has Aquarion coordinated water main replacement projects with Hingham's road-building program?

Hingham's road-building program began in 2011. In that year, and each year since, the Town has created a 5-year road-building plan, which it provides and reviews with utility companies. The Town also notifies residents, giving them an opportunity to have utility work completed (e.g., gas line extended to a home). To maintain the quality and integrity of newly-paved roads, the Town instituted a 5-year moratorium period.

Between 2012 and 2017, 113 Hingham roads have been resurfaced or rebuilt. 8 of those roads, or 7% of them, had water mains replaced at the same time.

As the chart below indicates, on some roads, only portions of water mains were replaced.

Issue:
Lack of coordination with Hingham road-building program

113 roads were resurfaced or rebuilt between 2012 and 2017.
Water mains were replaced in all or some of **8** of them (**7%** of total).

Year	Number roads resurfaced or rebuilt	Roads in which water mains were replaced	Limits of work
2012	19	Fairview Leonard	Main - Colby St Colby St. - #6
2013	12	East	Hingham Rec Skating Club – Cohasset Line
2014	17	Union	Lazell – Driving Range
2015	12	Free	Lazell – Weir River Culvert
2016	33	0	
2017	20	Turkey Hill Lane Surry Tower	#62 - #86 Croyden – Martin's Lane #47 continuing around circle to #47

Source: Hingham Town Engineer

Year	Number roads resurfaced or rebuilt	Roads in which water mains were replaced	Limits of work
2012	19	Fairview Leonard	Main -Colby St Colby St. - #6
2013	12	East	Hingham Rec Skating Club – Cohasset Line
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2015	12	Free	Lazell – Weir River Culvert
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2017	20	Turkey Hill Lane Surry Tower	#62 - #86 Croyden – Martin's Lane #47 continuing around circle to #47

How many resurfaced or rebuilt roads contain water mains that have been recommended for replacement?

In 2007, Aquarion commissioned a capital efficiency plan from Tata & Howard, an engineering consulting firm. The plan included recommended priority capital improvements, including water main replacements. It was subsequently updated in 2011 and 2014 at Aquarion's request.

Of the 113 Hingham roads that have been rebuilt or resurfaced between 2012 and 2017, 8 of them contain water mains that were prioritized by Tata & Howard for capital improvement in 2007, 2011, 2014, or in multiple years.

None of these water mains were replaced.

As of August 2018, one road, Howe Street, has required an emergency street opening for a water repair.

Issue:
Lack of coordination with Hingham road-building program

Of the **113** roads resurfaced or rebuilt between 2012 and 2017, **8** contain water mains that were prioritized for replacement by Aquarion commissioned capital studies. The mains were not replaced. Howe Street has already required an emergency street opening

Street	Year Rebuilt/Resurfaced	Prioritized by Tata & Howard for water main replacement		
		2007	2011	2014
Liberty Pole	2012		x	
Rockwood	2012	x	x	x
Burditt	2014			x
Fearing	2014			x
Grist Mill	2016	x	x	
Howe	2016	x	x	x
Howland	2016	x	x	x
Whitcomb	2016	x	x	x

Sources: Hingham Town Engineer; Tata & Howard Capital Efficiency Plans 2007, 2011, 2014

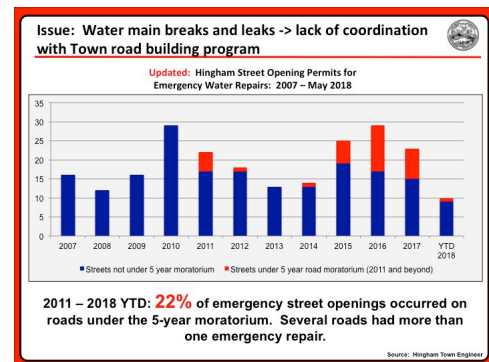
Street	Year Rebuilt/Resurfaced	Prioritized by Tata & Howard for water main replacement		
		2007	2011	2014
Liberty Pole	2012		x	
Rockwood	2012	x	x	x
Burditt	2014			x
Fearing	2014			x
Grist Mill	2016	x	x	
Howe	2016	x	x	x
Howland	2016	x	x	x
Whitcomb	2016	x	x	x

How many emergency water repairs have occurred in Hingham?

According to the Town Engineer, since 2007, Aquarion has submitted 227 street-opening requests due to emergency water repairs. 34 of these openings were on streets that were under the 5-year road moratorium. Some streets had multiple emergency water repairs.

Since the 5-year road moratorium period went into effect in 2011, 22% of the emergency street openings occurred on roads under the 5-year moratorium. Several roads have had more than one emergency repair.

Emergency repairs resulting from water-main breaks and leaks are often very expensive for taxpayers and disruptive to customers. Moreover, cuts into recently paved roads degrade their quality.



What is Unaccounted for Water and how does Service Area A Unaccounted for Water compare to the MA standard set by the DEP?

“Unaccounted for Water (UAW)...is the percent of water entering the distribution system not accounted for from service meter readings or from unmetered municipal uses such as fire fighting and street cleaning. UAW values may be high because water is lost through leaks in the distribution system, which may occur in older systems. UAW values may also be high if meters are incorrectly calibrated ...” (Source: DEP Website)

According to information provided by Aquarion to the DEP, Service Area A Unaccounted for Water has been significantly above the MA standard since 2010.

For 2017, Aquarion reported 16% Unaccounted for Water.

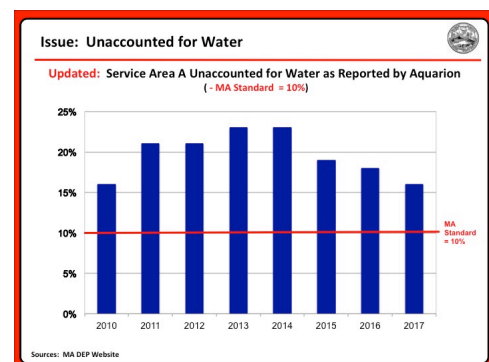
16% Unaccounted for Water translates to approximately 185 million gallons of water each year that is withdrawn from the watershed and not available for consumption.

- 185 million gallons represents the annual consumption of 2,058 households, or 99% of the amount of water pumped from Accord Pond in 2017 (187 million gallons)

Achieving the 10% DEP standard would make available approximately 69 million gallons of water each year for consumption and/or conservation.

- 69 million gallons represents the annual consumption of 772 households or ~22 days of average consumption for all ~13,000 ratepayers in Service Area A
- Alternatively, it would result in 37% fewer gallons withdrawn from Accord Pond each year

Acceptable Unaccounted for Water performance is a requirement to petition the DEP for an increase in the water system's withdrawal limit. An increase in the water system's withdrawal limit would require a new permit application and is not assured. Among other factors, the level of Unaccounted for Water is considered. It is believed that the Hingham water system would be required to further



reduce Unaccounted for Water to 15% or lower in order to petition the DEP for a withdrawal-limit increase.

How much has Aquarion invested in water main replacement?

Service Area A contains 190 miles of pipe or approximately 1 million feet.

According to documents provided by Aquarion in the current rate case, the 10-year average water main replacement in Service Area A is 2,000 feet (.2% of mains each year). This average includes one year (2016, which is also the rate-case test year) in which replacement was significantly higher than in any other year.

Applying Aquarion's currently anticipated average cost of \$275 per linear foot (Source: Initial Brief of AWCMA, page 64, dated 27 Jul 2018) to the 10-year average suggests a yearly investment of \$550,000 per year. However, this average is heavily influenced by 2016 (the rate-case test year).

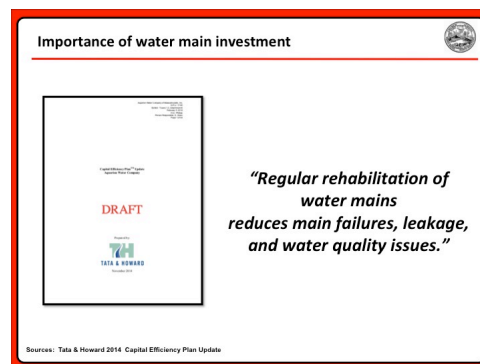
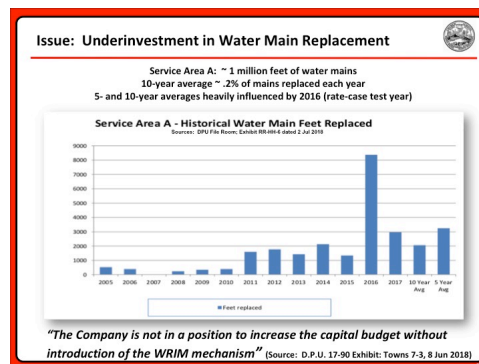
From 2005-2009, the chart suggests an average of 350 feet replaced each year (~ at a yearly cost of \$96,250).

From 2010-2015, the chart suggests an average of 1400 feet replaced each year (~ at a yearly cost of \$385,000).

Why is it important to invest in water mains?

According to the 2014 Tata & Howard Capital Efficiency Plan update, *"Regular rehabilitation of water mains reduces main failures, leakage, and water quality issues."*

In its 2014 plan update, Tata & Howard recommends replacing 1% of water main linear feet annually. Applying that metric to Service Area A would result in the replacement of approximately 10,000 linear feet of water main each year. (Source: D.P.U. 17-90 Exhibit Towns 1-3, Attachment B, page 48 of 64, 5 Feb 2018)



What are the Engineering objectives under Town ownership?

The objectives under Town ownership are as follows:

- Ensure daily operations & maintenance result in consistent, high quality service to ratepayers
- Accelerate capital improvement
 - Develop and implement a long-term, comprehensive asset management plan
- Identify and, where appropriate, adopt new technology
- Improve coordination with road-building programs
- Reduce emergency street openings (especially for roads under 5-year moratorium period)
- Reduce Unaccounted for Water
- Reduce discolored water complaints

Objectives Under Town Ownership	
<input type="checkbox"/>	Ensure daily operations & maintenance result in consistent, high quality service to ratepayers
<input type="checkbox"/>	Accelerate capital improvement <ul style="list-style-type: none">• Develop and implement a long-term, comprehensive asset management plan
<input type="checkbox"/>	Identify and, where appropriate, adopt new technology
<input type="checkbox"/>	Improve coordination with road-building programs
<input type="checkbox"/>	Reduce emergency street openings (especially for roads under 5-year moratorium)
<input type="checkbox"/>	Reduce Unaccounted for Water
<input type="checkbox"/>	Reduce discolored water complaints

Town's Initial Approach to Daily Operations & Maintenance

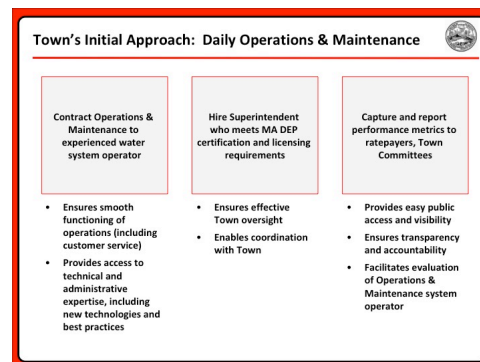
If the Town were to purchase the water company, how would daily operations & maintenance be run?

Similar to many publicly owned water systems, the Town would contract the performance of Operations & Maintenance to an experienced water system operator ("outsourcing"). The Town recognizes the importance of ensuring the smooth functioning of all operations (including customer service) and intends to engage the services of a company, which has experience with water company ownership transition.

An experienced water system operator would provide the necessary technical and administrative expertise. In addition, this operator would have the ability to introduce best practices and new technologies.

To coordinate and manage the Town's relationship with its contractual water system operator, the Town would hire a full-time Superintendent (who would be employed by the Town) to ensure effective Town oversight and to coordinate activities between the Town and the operator. This manager would be required to meet MA DEP certification and licensing requirements. The Town's Superintendent would bring to bear operations & management, engineering, and contract management skills to the 24/7/365 job of ensuring the smooth functioning of the water system for its ratepayers.

To ensure transparency and accountability, working with its contractual water system operator, the Town would identify, capture, and report performance metrics to both ratepayers and Town committees at regular intervals throughout the year.



How will the Town identify a qualified water system operator?

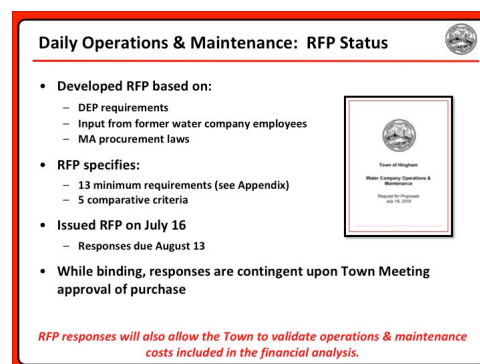
To identify a qualified water system operator, the Town developed a Request for Proposal (RFP) based on:

- DEP licensing and certification requirements
- Input from former water company employees
- Massachusetts procurement laws

The RFP defines 13 minimum requirements and 5 criteria that will be used to evaluate respondents.

The RFP was issued on July 16, 2018 and responses are due to the Town on August 13, 2018. The RFP specifies that responses are binding but are contingent upon a future Town Meeting approving the purchase of the water company (a 2/3 affirmative vote is required at such a Town Meeting).

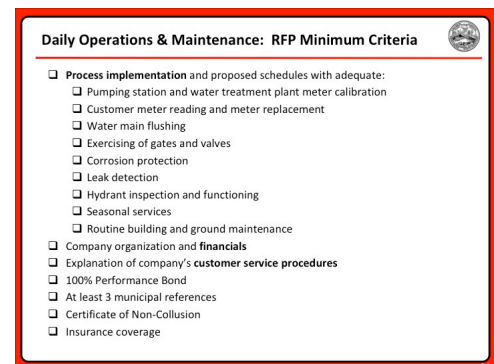
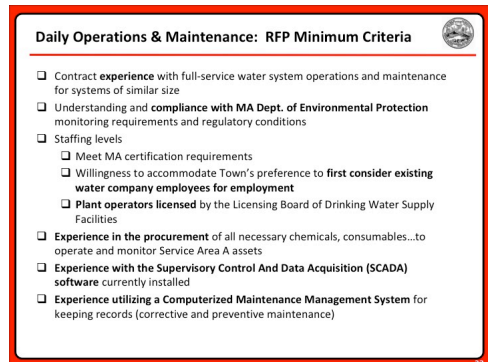
One additional benefit of the RFP is that responses will allow the Town to validate its operations & maintenance cost estimates, which are currently a key component of the Town's current financial analysis. The current cost estimates have been provided by an experienced national water system operator through a series of detailed, but non-binding, letter estimates.



What are the minimum criteria for a water company operator?

To be considered as a potential water company operator, it must meet the following criteria:

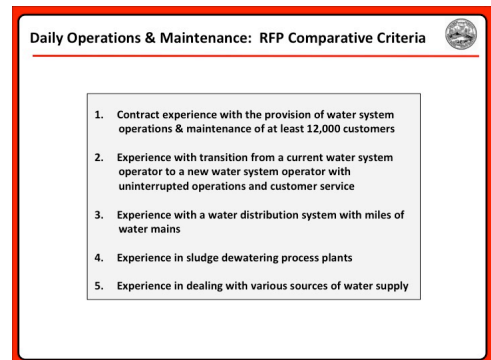
- Contract **experience** with full service water system operations & maintenance for systems of similar size
- Understanding and **compliance with MA Dept. of Environmental Protection** monitoring requirements and regulatory conditions
- Staffing levels
 - Meet MA certification requirements
 - Willingness to accommodate Town's preference to **first consider existing water company employees for employment**
 - **Plant operators licensed** by the Licensing Board of Drinking Water Supply Facilities
- **Experience in the procurement** of all necessary chemicals, consumables...to operate and monitor Service Area A assets
- **Experience with the Supervisory Control And Data Acquisition (SCADA) software** currently installed
- **Experience utilizing a Computerized Maintenance Management System** for keeping records (corrective and preventive maintenance)
- **Process implementation** and proposed schedules with adequate:
 - Pumping station and water treatment plant meter calibration
 - Customer meter reading and meter replacement
 - Water main flushing
 - Exercising of gates and valves
 - Corrosion protection
 - Leak detection
 - Hydrant inspection and functioning
 - Seasonal services
 - Routine building and ground maintenance
- Company organization and **financials**
- Explanation of company's **customer service procedures**
- 100% Performance Bond
- At least 3 municipal references
- Certificate of Non-Collusion
- Insurance coverage



On what basis would the Town select a water system operator?

As defined in the RFP, the Town would select an operator based on five criteria:

1. Contract experience with the provision of water system operations & maintenance of at least 12,000 customers
2. Experience with transition from a current water system operator to a new water system operator with uninterrupted operations and customer service
3. Experience with a water distribution system with miles of water mains
4. Experience in sludge dewatering process plants
5. Experience in dealing with various sources of water supply



How long would the Town outsource operations & maintenance?

The Town's RFP specifies a one-year contract minimum with the option to renew for up to two additional years. While the Town would expect to exercise its option to renew the contract on the assumption of satisfactory performance by the vendor, the RFP gives the Town the option to terminate the agreement in a relatively quick timeframe should the arrangement with the selected operations & maintenance vendor not prove satisfactory

In advance of any potential contract renewal date, besides renewal with the existing vendor, the Town would have the additional options to either issue an RFP for a different operations & maintenance vendor or to "insource"—to perform operations & maintenance functions with Town employees for which the Town would incur salary, benefits, pension, and OPEB obligations.

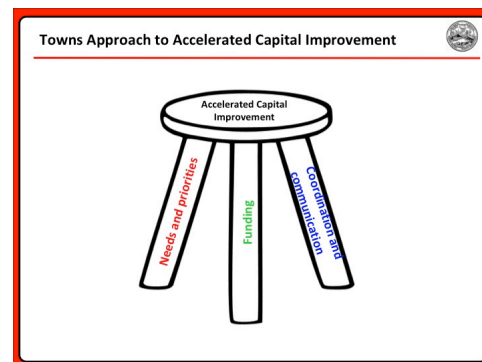
The Town believes its interests are best served by keeping its options flexible regarding the risks and rewards of changing vendors or insourcing operations & maintenance at some future date.

Town's Initial Approach to Accelerated Capital Improvement

How would the Town approach accelerated capital improvement?

From the Town's perspective, an effective capital investment strategy has three components:

- Identify capital needs and priorities
- Ensure adequate funding for capital investment
- Coordinate and communicate capital improvements



How would the Town identify and prioritize capital needs?

Over the past several years, Aquarion has commissioned several capital studies that identify and prioritize capital needs and make recommendations about the amount of capital investment required, particularly for water mains. In addition, as part of its reporting obligations to the Massachusetts Department of Public Utilities (DPU), Aquarion provides detailed information about its assets, their age, and intensity of usage.

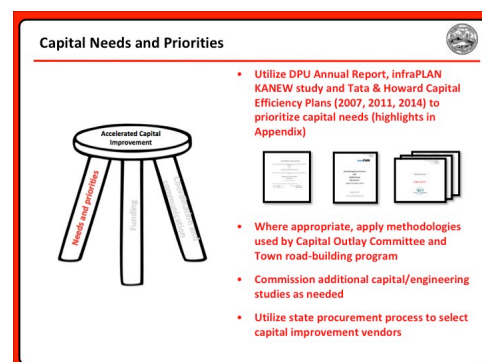
The Town's examination of these studies (which includes their review by former long-standing water company employees) suggests that many of the system's capital needs and priorities are well-defined. The Town believes that a lack of capital funding has been the primary impediment to implementing many of these study recommendations.

The Town intends to provide the existing studies, along with other documents that provide information about water system assets, to the water system operator, who would develop a 5-year capital plan.

As appropriate, the Town would also look to incorporate methodologies used by the Capital Outlay Committee and the Town Engineer's multi-year road-building program into the water system capital planning process:

If more current information is required, additional capital and engineering studies would be commissioned.

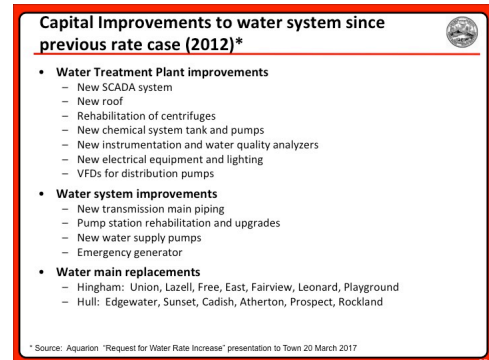
The selection of capital improvement vendors for particular projects would be performed by the Town's Superintendent, working in concert with the operations & management vendor, and the Town's Chief Procurement Officer in conformance with state procurement laws.



What sort of capital improvements have recently been made to the water system?

According to documents provided by Aquarion prior to submitting its 2017 rate case, the following capital improvements have been made during the six years since Aquarion's previous rate-increase filing in 2011:

- Water Treatment Plant improvements
 - New SCADA system
 - New roof
 - Rehabilitation of centrifuges
 - New chemical system tank and pumps
 - New instrumentation and water quality analyzers
 - New electrical equipment and lighting
 - VFDs for distribution pumps
- Water system improvements
 - New transmission main piping
 - Pump station rehabilitation and upgrades
 - New water supply pumps
 - Emergency generator
- Water main replacements
 - Hingham: Union, Lazell, Free, East, Fairview, Leonard, Playground
 - Hull: Edgewater, Sunset, Cadish, Atherton, Prospect, Rockland

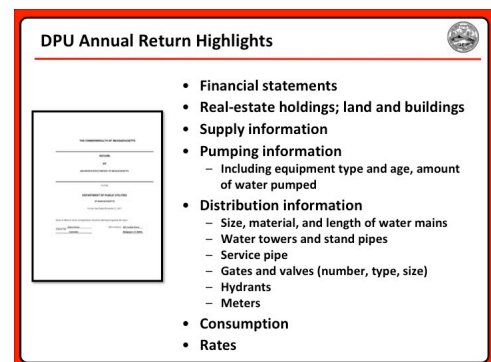


What information is provided in the annual report to the DPU?

Aquarion's DPU Annual Return filing includes financial statements, real-estate holdings, water-supply information, and pumping information (including pumping equipment type, age, and amount of water pumped).

It also provides distribution information including the size, material, and length of water mains, information about water towers and stand pipes, service pipes, the number, type and size of gates and valves, hydrants, and meters.

Lastly, the DPU Annual Return filing provides consumption data and rate structures.



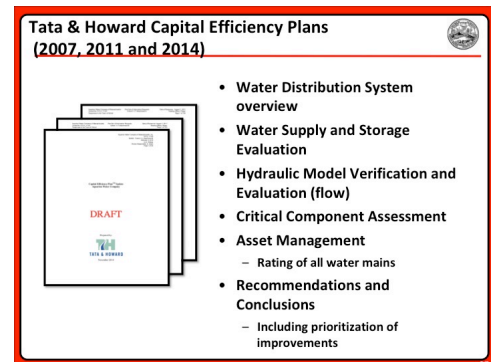
The Town intends to create a performance report, which would be prepared and made available to the Town and the public, which would highlight information and metrics about the water system. This information would also be provided and reviewed with governing bodies and Town Committees.

What are the Tata & Howard Capital Efficiency Plans?

The Tata & Howard Capital Efficiency Plans were commissioned by Aquarion. The initial plan was completed in 2007 and has been updated in 2011 and 2014.

These plans provide an overview of the water distribution system, an evaluation of water supply and storage, an evaluation of flow, an assessment of critical infrastructure components, asset management including a rating of water mains, and recommendations and conclusions, which include prioritization of improvements.

It should be noted that many of the recommended improvements appear in more than one report. There are also recommended water main replacements that were included in Aquarion capital plans but were not implemented.



What are the most recent Tata & Howard recommendations?

In 2014, Tata & Howard recommended the following investments in the water system over a period of many years:

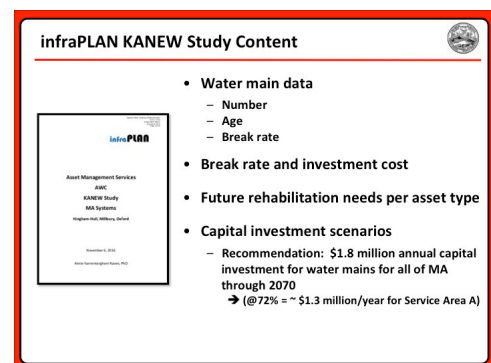
- Phase I: \$10.2 million
- Phase II: \$8.2 million
- Phase IIIa: \$7.7 million
- Phase IIIb: \$48.4 million (primarily water main replacements)

What is the infraPLAN KANEW study?

The infraPLAN KANEW study was commissioned by Aquarion and published in late 2016. It focuses on water mains and recommends a long-term water main “Renewal and Replacement strategy (R&R)” based on water main data (number, age, and break rate).

The firm’s report concluded, “*The minimum investment that is projected is \$1.8M that could be maintained up to 2070 but, then, would need to be ramped up to \$2M by 2100 (including the new mains)*” (Source: infraPLAN KANEW Study, dated November 6, 2016).

Service Area A represents roughly 72% of Aquarion of MA business; applying this percentage to the KANEW-recommended annual investment suggests annual capital spending of \$1.3 million per year for Service Area A water-main R&R.



It's clear that a significant investment is needed in the water system. Why should the Town purchase it?

Money for capital improvements comes from water rates. Therefore, ratepayers will pay for capital improvements regardless of who owns the water company.

The question to consider is whether there are any differences in the cost and timing of capital improvements between private and Town ownership.

Aquarion pays for capital improvements through its water rates. These rates include corporate profit, Water Treatment Plant rent, charges for depreciation, Federal and state taxes, and administrative-overhead costs.

In the current rate-case hearing, an Aquarion official testified that *"The Company is not in a position to increase the capital budget without introduction of the WRIM mechanism"* (Source: D.P.U. 17-90 Exhibit: Towns 7-3, 8 Jun 2018). This may explain in part why Aquarion has not effected many of the capital improvements recommended in its own studies dating back to 2007.

The Town's expert witness has testified that the introduction of the WRIM mechanism for the next five years, combined with the requested rate increase, will result in an average water bill increase of 25% over the next 5 years. To the extent the WRIM mechanism is extended beyond 5 years, water rates would continue to escalate.

The Town's financial analysis indicates that capital investment can be accelerated without a ratepayer surcharge. This is due to 55% of Aquarion's costs being eliminated and the Town's ability to borrow money for the water company at significantly lower rates than Aquarion.

Accelerated capital improvement has ancillary benefits. More extensive water-main replacement reduces:

- Costs to repair emergency water main breaks (which are borne by ratepayers)
- The need to open resurfaced/rebuilt roads under the 5-year moratorium (which degrades their quality)
- Leaks that contribute to Unaccounted for Water, reducing stress on the Weir River watershed
- The likelihood of discolored water incidents

How will capital needs be prioritized between Hingham and Hull?

Aquarion's capital budget identifies several categories of capital improvements:

- Water mains
- Transmission and distribution
- Information Technology
- Meters
- Sources of supply
- Treatment
- Pumping

- General plant

The Town's water system operator would develop a 5-year capital plan based on existing capital plans and documented information about the water system. Some capital items, such as those related to water treatment, benefit all ratepayers. Others, such as water mains and some transmission and distribution projects, benefit ratepayers in a particular neighborhood or street.

The capital efficiency studies by Tata & Howard, from 2007, 2011, and 2014, all contain prioritized lists of proposed water main and transmission and distribution projects. Those studies, augmented by current emergency repair history and updated, as necessary, by additional investigations, will help inform decisions and priorities regarding capital expenditures.

With more capital dollars available under Town ownership, capital improvements could be accelerated throughout the entire Service Area.

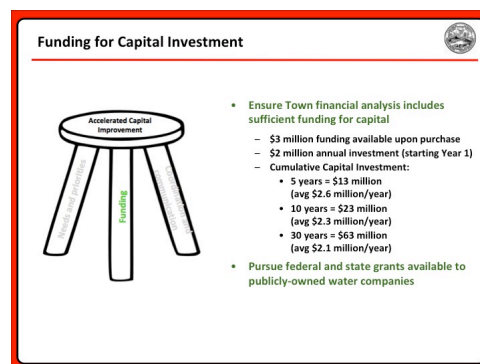
How will capital be funded?

The Town's financial analysis reflects the following:

- \$3 million capital funding available upon purchase
- \$2 million annual capital investment starting in year 1

Under Town ownership, the cumulative capital investment that is reflected in the financial analysis is as follows:

- 5 years = \$13 million (avg \$2.6 million/year)
- 10 years = \$23 million (avg \$2.3 million/year)
- 30 years = \$63 million (avg \$2.1 million/year)



Will capital improvements cost more under Town ownership because of prevailing wages?

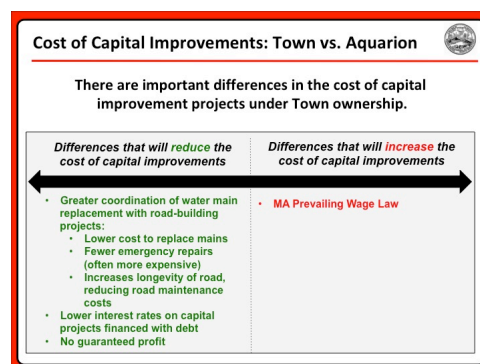
There are important differences in the cost of capital improvements under Town ownership.

Three differences will reduce the cost of capital improvements under Town ownership:

1. Greater coordination of water main replacement with road-building projects will result in:

- Lower water main replacement costs (paving costs are shared with the Town and potentially other utilities)
- Fewer emergency repairs (which are often more expensive)
- Increased road longevity, reducing road maintenance costs (Town budget, paid by taxpayer)

2. Lower interest rates on capital projects financed with debt. While only ratepayers will pay for capital improvements--similar to the Hingham Sewer Department--the Town will borrow money on behalf of the water company. This affords the water company access to interest rates that--due to



the Town's Aaa bond rating from all three rating agencies--are significantly lower than those available to Aquarion.

3. No profit or depreciation expenses. As part of the rate-setting process, the Department of Public Utilities (DPU) authorizes utilities to earn a return on equity that is typically over 10% and a return on rate base in excess of 8%. These returns apply both to daily operations & maintenance as well as capital investment. In addition, utilities are allowed to recover their depreciation costs through water rates.

To illustrate the cost differential, the following is a description of Aquarion's proposed 8.05% cost of capital, which is part of the current rate case:

- *In this case, the Company is proposing a weighted average cost of capital of 8.05 percent for the rate of return to be applied to its rate base (Exhibit 6, Schedule 1 (6/18/18 Update)). This cost of capital is based on:*
 - *(1) the Company's actual capital structure as of December 31, 2016, adjusted for known redemption of \$370,000 associated with the MA Pollution Abatement Trust, of 52.96 percent long term debt, and 47.04 percent common equity;*
 - *(2) a proposed long term debt cost rate of 5.87 percent based on the cost of long term debt for the Company;*
 - *(3) a proposed rate of return on common equity ("ROE") of 10.50 percent based, in part, on the Department's regulation at 220 C.M.R. § 31.00 et seq (Exhs. TMD at 27-32; Exhibit 6, Schedule 1 (6/18/18 Update)).*
- *In addition, the Company has noted that its proposed rate of return on common equity of 10.50 percent takes into account the current low interest environment and the Company's lack of decoupling and infrastructure investment mechanisms (Exh. TMD at 27-32) (Source: Initial Brief of Aquarion Water Company of Massachusetts Inc., 27 July 2018, page 67).*

However, one difference will increase the cost of capital improvements under Town ownership. The Massachusetts Prevailing Wage Law for public works projects (MGL c. 149, §§ 26 – 27) establishes minimum wage rates for workers on public construction projects. Before soliciting bids for any public construction project—which a water system capital improvement would be—the Town-owned water company would have to obtain a prevailing wage rate sheet for that particular project from the MA Department of Labor Standards.

What grant and loan opportunities exist for publicly-owned water companies?

Based on the Town's initial research, the following are state grant and loan opportunities that are available to publicly owned water companies:

- The **State Revolving Fund (SRF)** currently offers 2% loans for water infrastructure projects. SRF is the Massachusetts leg of the Clean Water State Revolving Fund, a federal EPA/state partnership that provides financial assistance for a range of water infrastructure projects. SRF offers affordable loan options to cities and towns to help protect their clean water and drinking water. Each June, the Division of Municipal Services launches a solicitation of proposals for SRF financial assistance for the next calendar year. Applications are due in August. There are two SRF programs:
 - **1) SRF Drinking Water Program** provides loans to communities to improve water supply infrastructure and drinking water safety (\$100-125 million in financing annually). Communities can receive financial assistance for the engineering, design, and construction

of drinking water projects, such as new wastewater treatment facilities that protect public health and improve compliance with federal and state drinking water regulations.

Eligible projects include:

- New and upgraded drinking water treatment facilities;
- Projects to replace contaminated sources, new water treatment, or storage facilities;
- Consolidation or restructuring of water systems;
- Projects and system activities that provide treatment, or effective alternatives to treatment, for compliance with regulated health standards, such as the Surface Water Treatment Rule; and
- Installation or replacement of transmission or distribution systems

Ineligible projects include:

- Dams
- Purchase of water rights
- Reservoirs, lab fees
- Fire protection projects
- Other non-capital expenses

- 2) **SRF Clean Water SRF Program** helps municipalities comply with federal and state water quality requirements by focusing on watershed management priorities, storm water management, and green infrastructure (\$400 to \$450 million in financing annually).
- **Water Infrastructure Asset Management Plan (AMP) Grant Program:** DEP's AMP grant program helps public entities to prepare asset management plans for existing equipment owned by drinking water, wastewater, or storm water systems. Up to \$400,000 has been available for the last several fiscal years, funding about 10 awards each year. Planning projects have to be complementary to existing infrastructure, not for new infrastructure. The AMP assessment inventories infrastructure assets, helps communities plan investments before high priority assets fail, sets up a timeline for regular equipment replacement, and discusses adjustments to water rates to provide an annual investment in the system.
- The **State Drinking Water Supply Protection (DWSP)** grant program provides financial assistance to public water systems and municipal water departments for the purchase of land or interests in land for the following purposes: 1) protection of existing DEP-approved public drinking water supplies; 2) protection of planned future public drinking water supplies; or 3) groundwater recharge. Maximum award: \$300,000; reimbursement rate: 50%. \$756,513 total awarded in April 2018 to 5 communities.
- **Statewide Water Management Act Grant:** This grant program is designed to assist eligible public water suppliers and municipalities with Water Management Act permits by providing funds for planning assistance, demand management, and withdrawal impact mitigation projects in local communities. Reimbursement rate: 80%. Approximately \$2 million was available in FY18, 8 proposals totaling \$1 million were submitted, and DEP funded 7 proposals totaling \$632,917. The focus of these grants will be for:
 - 1) Planning projects for specific watersheds or subwatersheds to identify implementation projects to improve ecological conditions;
 - 2) Conservation projects aimed to reduce the demand for water within a municipality or a watershed, such as rate studies or drought resiliency planning;
 - 3) Withdrawal mitigation projects that address the following: improve or increase instream flow, wastewater projects that keep water local, stormwater management projects that improve recharge, reduce impervious cover and/or improve water quality, water supply

operational improvements, habitat improvement, demand management, reduction of wastewater inflow and infiltration, and other projects that can be demonstrated to mitigate the impacts of water withdrawals.

How will capital improvements be coordinated and communicated?

Both Hingham and Hull have road-building programs, which identify and communicate road-building plans far in advance. From 2012 – 2017, Aquarion replaced water mains in only 7% of rebuilt or resurfaced roads. One goal under Town ownership is to have greater coordination between the water company and the road-building program.

The Town's financial analysis reflects the following:

- \$3 million capital funding available upon purchase
- \$2 million annual capital investment starting in year 1

It is expected that, with more capital funds available for water main replacements, greater coordination could occur.

In addition to reviewing the prioritized water main replacement projects, the Superintendent and operator would review road-building plans for both Hingham and Hull.

To ensure visibility and accountability, similar to the Town's capital outlay process, the water company's five-year capital plan would be reviewed with all governing bodies.

In addition, the water company would create and publish an annual capital report. This report, which would be made available to all ratepayers, would be similar in scope to the annual report of the Hingham Capital Outlay Committee.

